



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/774,577

02/09/2004

Jennifer A. Coggan

8650.027 US

9765

30827 7590 01/25/2007
MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER

GARRETT, DAWN L

ART UNIT

PAPER NUMBER

1774

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

01/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/774,577

Applicant(s)

COGGAN ET AL.

Examiner

Dawn Garrett

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 9-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office action is responsive the amendment dated October 27, 2006. Claims 1, 8, 10, and 12 were amended. The species under consideration in the last Office action is the following:

Formula (IV) where R1, R4, R7 and R8 are hydrogen, R5 and R6 are heteroaryl or substituted heteroaryl of from 5 to 24 carbon atoms, R2 and R3 are alkyl groups of from 1 to 25 carbon atoms. Claims 8, 9 and 12 were under consideration as reading upon the species under consideration.

Due to the amendment adding the negative limitation “non-purine containing substituents” for variables R5 and R6, the prior art rejection over Kimura (US 6,780,529) is withdrawn. It is noted, however, that the negative limitation is new matter as set forth in the rejection below. Applicant’s amendment to remove a species under consideration by negative limitation from the claims necessitated the new grounds of rejection presented in this Office action [See MPEP 803.02]. Accordingly, this Office action is being made final.

The new species under consideration is the following:

For Formula (I), R2 and R3 are fused heteroaromatic rings and R1 and R4 are hydrogen. In Formula (II) this same species is where R5 and R6 are heteroaromatic rings and R1-R4 are hydrogen. (It is noted that Formulas (III) and (IV) have not been included because of their requirements for R7 and R8 substituent groups, which are not present in the selected species). Claims 9-13 are currently withdrawn as non-elected with regard to the new species under consideration. Claims 8, 9, and 12 have been included in the 35 U.S.C. 112, first paragraph

Art Unit: 1774

rejection below, but have not been further considered on the merits as they do not read upon the new species under consideration.

2. The rejection of claims 8, 9 and 12 under 35 U.S.C. 112, second paragraph, set forth in the last Office action, paragraph 4, is withdrawn due to the amendment.

3. The rejection of claims 8, 9, and 12 under 35 U.S.C. 102(e) as being anticipated by Kimura (US 6,780,529) is withdrawn due to the amendment.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 8, 9, and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Although applicant has support for generally described substituted aryl, heteroaryl, substituted heteroaryl, fused heteroaromatic rings, and fused aromatic rings for variables R5 and R6, it is not seen where applicant had possession of the specific group purine in order to exclude all “non-purine containing” substituents. There are no specific compound examples in the specification shown to have a purine group and the word “purine” is not included in the text. Applicant must show possession of a specific element in order to exclude that element by

Art Unit: 1774

negative limitation in the claims. The phrase "non-purine containing" is considered to be new matter.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

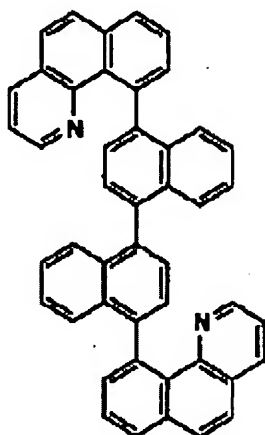
8. Claim 14 is indefinite, because claim 14 sets forth "Formula (I)"; however, there is no Formula (I) compound shown. Accordingly, it is unclear if the same Formula (I) as set forth in claim 1 is intended. Claim 14 is an independent claim, so it is unclear what is meant by "Formula (I)". Clarification and/or correction are required.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 2, 5-8, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzurisato et al. (JP 2002-324676). Suzurisato et al. teaches organic electroluminescent devices, which may comprise an electron transporting material (see par. 98) such as the following (see par. 100):

2-7

The reference teaches any of the disclosed electron transportation materials may be used for the luminescent material of the luminous layer (see par. 107). In addition, any well known dopant is taught to be used with the luminous material in the luminous layer (see par. 109) per claims 2 and 15. With regard to claims 5-7 and 14, the reference discloses the EL device has an anode, hole injection layer, hole transportation layer, luminous layer, electron transportation layer, electron injection layer and cathode layer (see par. 159). With regard to claim 16, an indium tin oxide anode can be formed at a thickness of 200nm (see par. 169), the hole injection layer may be formed of copper phthalocyanine (see par. 54) and the buffer layers (the hole injection layer as named by Suzurisato et al.) may be in a thickness of 0.1 to 100 nm (see par. 56), the hole transportation layer is formed of a tertiary amine (see par. 65) and is formed in a thickness of 5nm-5 micrometers (see par. 84), the thickness of the luminous layer is 5nm to 5 micrometers (see par. 119), the cathode may comprise a magnesium and silver alloy of 200 nm thickness (see par. 170). Although Suzurisato et al. fails to set forth an *example* showing specific formula 2-7 binaphthyl compound as the luminous material, it would have been obvious to one of ordinary

Art Unit: 1774

skill in the art to have formed devices as claimed, because Suzurisato et al. teaches all of the required materials and elements of the claimed EL devices.

11. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzurisato et al. (JP 2002-324676) in view of Hoag et al. (US 6,824,893). Although Suzurisato teaches any well known dopant is taught to be used with the luminous material in the luminous layer (see par. 109), the reference fails to specify a particular dopant compound or dopant amount that is added to the luminous layer per claims 3 and 4. Hoag et al. teaches, in analogous art, an important relationship for choosing a dye as a dopant is that the dopant have a smaller bandgap than that of the host material with regard to claim 3 (see col. 13, lines 28-34). Dopants are typically used in an amount of up to 10wt% of the host (see col. 2, lines 49-53). It would have been obvious for one of ordinary skill in the art at the time of the invention to have selected a dopant having a smaller bandgap than the host for the luminescent layer of Suzurisato and to have added the dopant in an amount up to 10wt% of the luminous layer, because Hoag teaches in analogous art that dopants with such a bandgap property and used in such an amount are commonly known and used in the art and one would expect dopants selected and used in the same way for the Suzurisato devices to be similarly useful.

Allowable Subject Matter

12. The species considered in the last Office action is considered to comprise allowable subject matter in light of the current claim amendment. It is noted, however, that a new matter rejection has been set forth in this Office action concerning the claim amendment, which removed the previously applied Kimura (US 6,780,529) prior art rejection.

Art Unit: 1774

Applicant is also reminded that the very first species selected by applicant is allowable subject matter (see last Office action, par. 2).

Response to Arguments

13. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action [**See MPEP 803.02**]. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

Art Unit: 1774

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Dawn Garrett
Primary Examiner
Art Unit 1774